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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,255	02/07/2002	Alexander D. Stoyen	110344.101US2	6624
24395	7590	08/19/2005	EXAMINER	
WILMER CUTLER PICKERING HALE AND DORR LLP THE WILLARD OFFICE BUILDING 1455 PENNSYLVANIA AVE, NW WASHINGTON, DC 20004			STARKS, WILBERT L	
			ART UNIT	PAPER NUMBER
			2129	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/067,255	STOYEN, ALEXANDER D.
	Examiner	Art Unit
	Wilbert L. Starks, Jr.	2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 June 2005.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-46 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-46 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 07 February 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. New corrected drawings are required in this application because some were printed with insufficient toner and the drawing shows up as being faded and some connections are either missing or too light to show up in reproductions for a camera-ready patent document.
2. Specifically, figures 16A, 16B, 35A, 35B, 35C, 36A, 36B, and 38A are the most faded examples.
3. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 U.S.C. §101

4. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 1-46 is directed to non-statutory subject matter.

5. Regardless of whether any of the claims are in the technological arts, none of them is limited to practical applications in the technological arts. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "data corresponding to immediate certainties, near certainties, and longer term possibilities characterizing the at least one aerial combat situation" references are just such abstract ideas.

6. Note that the reference to the "aerial combat situation" is simply what is called a "field of use" in 101 doctrine. The words "aerial combat situation" do not limit the claims to a particular practical application. It is unknown whether the claimed "aerial combat situation" refers to aerial dogfighting tactics, air to air missile engagement, electronic warfare engagement, weapons officer's activities, air to ground attacks, the control of a g-suit, reconnaissance and surveillance activities, vectored thrust control, control of variable wing geometries, or whatever.

Art Unit: 2129

7. Each of these things is a different invention, but Applicant's claims cover all those practical applications and more....the claims are not limited at all in this respect.

8. Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street's* holding that:

Today we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' -- a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades. (emphasis added) *State Street Bank* at 1601.

9. True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly did not go so far as to make business methods *per se statutory*. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application*. It would have been much easier for the court to say that "business methods were *per se statutory*" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

10. The court was being very specific.

11. Additionally, the court was also careful to specify that the “useful, concrete and tangible result” it found was “a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” (i.e. the trading activity is the further practical use of the real world monetary data beyond the transformation in the computer – i.e., “post-processing activity”.)

12. Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

13. Furthermore, in the case In re Warmerdam, the Federal Circuit held that:

...the dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas' or 'natural phenomena' ... As the Supreme Court has made clear, '[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

14. Since the Federal Circuit held in Warmerdam that this is the "dispositive issue" when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is "useful, concrete, and tangible" in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract "data corresponding to immediate certainties, near certainties, and longer term possibilities characterizing the at least one aerial combat situation" to solve purely algorithmic problems in the abstract (i.e., what *kind* of "data" is used and how does it "correspond" with "immediate certainties," "near certainties," and "longer term possibilities?") Is the "data" sensed from somewhere? If so, what is sensed? Are the data entered by a human? Is the data telemetry data? G-suit data? Aircraft orientation and configuration data? Radar data? IR data? Sensor fused data? Probabilistic estimations of data? Philosophical ideas about the engagement? Even vague expressions, about which even reasonable persons could differ as to their meaning? Combinations thereof?) Clearly, a claim for manipulation of "data corresponding to immediate certainties, near certainties, and longer term possibilities characterizing the at least one aerial combat situation" is provably even more abstract (and thereby less limited in practical application) than pure "mathematical algorithms" which the Supreme Court has held are per se nonstatutory – in fact, it *includes* the expression of nonstatutory mathematical algorithms.

15. Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.

16. Since Warmerdam is within the Alappat-State Street Bank line of cases, it takes the same view of "useful, concrete, and tangible" the Federal Circuit applied in State Street Bank. Therefore, under State Street Bank, this could not be a "useful, concrete and tangible result". There is only manipulation of abstract ideas.

17. The Federal Circuit validated the use of Warmerdam in its more recent AT&T Corp. v. Excel Communications, Inc. decision. The Court reminded us that:

Finally, the decision in In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that 'taking several abstract ideas and manipulating them together adds nothing to the basic equation'; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court's conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) AT&T Corp. v. Excel Communications, Inc., 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

18. Remember that in In re Warmerdam, the Court said that this was the dispositive issue to be considered. In the AT&T decision cited above, the Court reaffirms that this is the issue for assessing the "useful, concrete, and tangible" nature of a set of claims under 101 doctrine. Accordingly, Examiner views the Warmerdam holding as the dispositive issue in this analogous case.

19. The fact that the invention is merely the manipulation of *abstract ideas* is clear. The data referred to by Applicant's phrase "data corresponding to immediate certainties, near certainties, and longer term possibilities characterizing the at least one aerial combat situation" is simply an abstract construct that does not provide limitations in the claims to the transformation of real world data (such as monetary data or heart rhythm data) by some disclosed process. Consequently, the necessary conclusion under AT&T, State Street and Warmerdam, is straightforward and clear. The claims take several abstract ideas (i.e., "data corresponding to immediate certainties, near certainties, and longer term possibilities characterizing the at least one aerial combat situation" in the abstract) and manipulate them together adding nothing to the basic equation. Claims 1-46 are, thereby, rejected under 35 U.S.C. §101.

Claim Rejections - 35 U.S.C. §112

20. The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

21. Claims 1-46 are rejected under 35 U.S.C. §112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed *how to practice the undisclosed practical application*. This is how the MPEP puts it:

(“The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35 U.S.C. §101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. §101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. §112.”); In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) (“Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, otherwise an applicant would anomalously be required to teach how to use a useless invention.”) See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-46 are rejected on this basis.

Claim Rejections - 35 USC § 102

22. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

23. Claims 1, and 43-46 are rejected under 35 U.S.C. 102(a) as being anticipated by Wigren (U.S. Patent Number 6,278,401 B1; dated 21 AUG 2001; class 342; subclass 195). Specifically:

Claim 1

Claim 1's "configuring, using a computer, at least one tactical agent that includes data corresponding to immediate certainties, near certainties, and longer-term possibilities characterizing the at least one aerial combat situation;" is anticipated by Wigren, col. 13, lin. 50-65, where it recites:

The probability calculations according to a preferred embodiment of the present invention follow in general terms the procedure illustrated in FIG. 2. Here, the flow of the different measurements are shown together with the dependence of the user selected probability of correct detection and the target type system definition. A measurement is performed and the result is sent to box 10. In this box, the measurement will be delayed one step in order to become the second latest measurement M.sub.q-1 when passed further to box 11. The latest measurement will also pass directly to box 11, then being the latest measurement M.sub.q. The probability for correct detection P.sub.C and the definition matrix .DELTA..TM. of the target type system is used in box 12 to compute the likelihood with an ambiguity restoring procedure to form a likelihood look-up table. The likelihood is computed in box 11...

Claim 1's "processing, using the computer, the at least one aerial combat situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 1's "implementing the decision making, by at least one user or independently by at least one intelligent agent, responsive to said processing step, and the decision making used to initiate at least one action with respect to the at least one aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 3

Claim 3's "A computer implemented or user assisted method of decision making

according to claim 1, wherein the at least one intelligent agent assists the at least one user in the decision making for the at least one aerial combat situation by providing the at least one user advice on coordinating the at least one aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 4

Claim 4's " A computer implemented or user assisted method of decision making according to claim 1, wherein the at least one intelligent agent is configurable to perform independent decisions in at least one of real-time and non-real time for the at least one aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 43

Claim 43's "configuring, using a computer, at least one tactical agent that includes data corresponding to immediate certainties, near certainties, and longer-term possibilities characterizing the at least one aerial combat situation;" is anticipated by Wigren, col. 13, lin. 50-65, where it recites:

The probability calculations according to a preferred embodiment of the present invention follow in general terms the procedure illustrated in FIG. 2. Here, the flow of the different measurements are shown together with the dependence of the user selected probability of correct detection and the target type system definition. A measurement is performed and the result is sent to box 10. In this box, the measurement will be delayed one step in order to become the second latest measurement M.sub.q-1 when passed further to box 11. The latest measurement will also pass directly to box 11, then being the latest measurement M.sub.q. The probability for correct detection P.sub.C and the definition matrix .DELTA..TM. of the target type system is used in box 12 to compute the likelihood with an ambiguity restoring procedure to form a likelihood look-up table. The likelihood is computed in box 11...

Claim 43's "processing, using the computer, the at least one aerial combat situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 43's "implementing the decision making, by at least one user or independently by at least one intelligent agent, responsive to said processing step, and the decision making used to initiate at least one action with respect to the at least one aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 44

Claim 44's "configuring, using a computer, at least one tactical agent that includes data corresponding to immediate certainties, near certainties, and longer-term possibilities characterizing the at least one aerial combat situation;" is anticipated by Wigren, col. 13, lin. 50-65, where it recites:

The probability calculations according to a preferred embodiment of the present invention follow in general terms the procedure illustrated in FIG. 2. Here, the flow of the different measurements are shown together with the dependence of the user selected probability of correct detection and the target type system definition. A measurement is performed and the result is sent to box 10. In this box, the measurement will be delayed one step in order to become the second latest measurement M.sub.q-1 when passed further to box 11. The latest measurement will also pass directly to box 11, then being the latest measurement M.sub.q. The probability for correct detection P.sub.C and the definition matrix .DELTA..TM. of the target type system is used in box 12 to compute the likelihood with an ambiguity restoring procedure to form a likelihood look-up table. The likelihood is computed in box 11...

Claim 44's "processing, using the computer, the at least one aerial combat situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 44's "implementing the decision making, by at least one user or independently by at least one intelligent agent, responsive to said processing step, and the decision making used to initiate at least one action with respect to the at least one aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 45

Claim 45's "configuring, using a computer, at least one tactical agent that includes data corresponding to immediate certainties, near certainties, and longer-term possibilities characterizing the at least one aerial combat situation;" is anticipated by Wigren, col. 13, lin. 50-65, where it recites:

The probability calculations according to a preferred embodiment of the present invention follow in general terms the procedure illustrated in FIG. 2. Here, the flow of the different measurements are shown together with the dependence of the user selected probability of correct detection and the target type system definition. A measurement is performed and the result is sent to box 10. In this box, the measurement will be delayed one step in order to become the second latest measurement M.sub.q-1 when passed further to box 11. The latest measurement will also pass directly to box 11, then being the latest measurement M.sub.q. The probability for correct detection P.sub.C and the definition matrix .DELTA..TM. of the target type system is used in box 12 to compute the likelihood with an ambiguity restoring procedure to form a likelihood look-up table The likelihood is computed in box 11...

Claim 45's "processing, using the computer, the at least one aerial combat situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 45's "implementing the decision making, by at least one user or independently by at least one intelligent agent, responsive to said processing step, and the decision making used to initiate at least one action with respect to the at least one aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 46

Claim 46's "configuring, using a computer, at least one tactical agent that includes data corresponding to immediate certainties, near certainties, and longer-term possibilities characterizing the at least one aerial combat situation;" is anticipated by Wigren, col. 13, lin. 50-65, where it recites:

The probability calculations according to a preferred embodiment of the present invention follow in general terms the procedure illustrated in FIG. 2. Here, the flow of the different measurements are shown together with the dependence of the user selected probability of correct detection and the target type system definition. A measurement is performed and the result is sent to box 10. In this box, the measurement will be delayed one step in order to become the second latest measurement M.sub.q-1 when passed further to box 11. The latest measurement will also pass directly to box 11, then being the latest measurement M.sub.q. The probability for correct detection P.sub.C and the definition matrix .DELTA..TM. of the target type system is used in box 12 to compute the likelihood with an ambiguity restoring procedure to form a likelihood look-up table The likelihood is computed in box 11...

Claim 46's "processing, using the computer, the at least one aerial combat situation using the at least one tactical agent; and" is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Claim 46's "implementing the decision making, by at least one user or independently by at least one intelligent agent, responsive to said processing step, and the decision making used to initiate at least one action with respect to the at least one aerial combat situation." is anticipated by Wigren, col. 13, lin. 65-67, where it recites:

The likelihood is computed in box 11 using the look-up table and the two last measurements M.sub.q, M.sub.q-1 and is used to update the target type probabilities in box 13.

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.
 - A. Appriou et al. (U.S. Patent Number 5,208,757; dated 04 MAY 1993; class 701; subclass 223) discloses airborne system for determining the position of an aerial vehicle and its applications.
 - B. Lavoie (U.S. Patent Number 6,788,243 B2; dated 07 SEP 2004; class 342; subclass 013) discloses hidden Markov modeling for radar electronic warfare.

- C. Muravez (U.S. Patent Number 6,845,938 B2; dated 25 JAN 2005; class 244; subclass 003.11) discloses system and method for periodically adaptive guidance and control.
- D. Love (U.S. Patent Number 6,920,439 B1; dated 19 JUL 2005; class 706; subclass 020) discloses method and apparatus for incorporating decision making into classifiers.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (571) 272-3691.

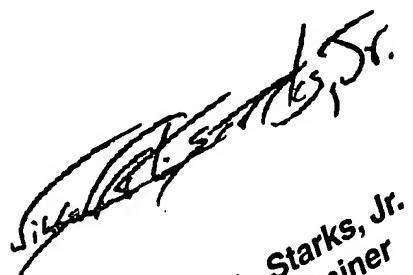
Alternatively, inquiries may be directed to the following:

S. P. E. Anthony Knight **(571) 272-3687**

Official (FAX) **(571) 273-8300**

WLS

16 August 2005



Wilbert L. Starks, Jr.
Primary Examiner
Art Unit - 2121